



Human Systems Integration in DoD Acquisition



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OUTLINE

- What is Human Systems Integration (HSI)
- Why Care About HSI?
- DoD Requirements for HSI in Acquisition
- Service Specific HSI Programs
- DoD HSI Websites and Points of Contact
- DoD and Service HSI Training

What is Human Systems Integration?

Human Systems Integration (HSI) is the interaction between people (operators, maintainers and support) and their systems.

- The principle goal is ensure a safe and efficient relationship between the user and the technical system.

- HSI is a factor in:

 - Acquisition

 - Program Management

 - Architectures / CONOPs

 - Systems Engineering

 - Logistics / Supportability

 - Programming & Budgeting

 - Warfighting Readiness

What is Human Systems Integration?

Training

Equips Warfighters with the Knowledge Skills & Abilities (KSAs) needed

Design features that minimize human error and reduce risk of injury

Manpower

Personnel

Retention

Recruiting

Addresses all aspects of defining requirements for personnel as well as obtaining and retaining those individuals

System Safety

Environment

Occupational Health

Ensures that all aspects of the system are designed with full consideration of the inherent capabilities and limitations of the warfighter

Human Factors

Personnel Survivability

Provides that the warfighter will have all personal protection needed

Habitability

Ensures that all aspects of the living and working spaces are designed with the warfighter in mind

Why Do HSI?

DoD 5000.2-R, Chapter 2, Para C2.8.5.

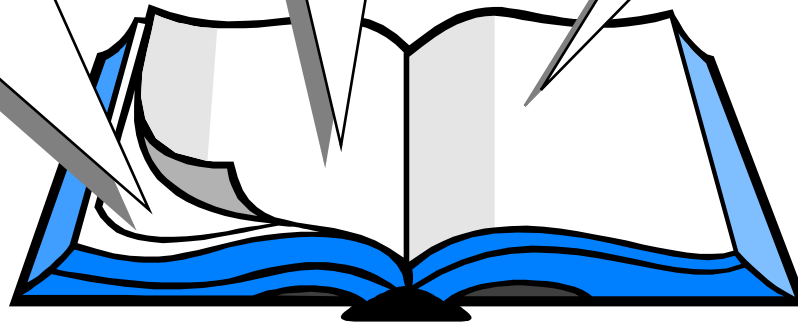
“The PM **shall** pursue HSI initiatives to optimize total system performance and minimize TOC. The PM **shall** integrate [human-related domain] considerations into the acquisition process.”

DoD 5000.2-R, Chapter 4, Para C4.5.4.2.

“The manpower estimate for ACAT I programs **shall** outline the DoD Component’s official manpower position...”

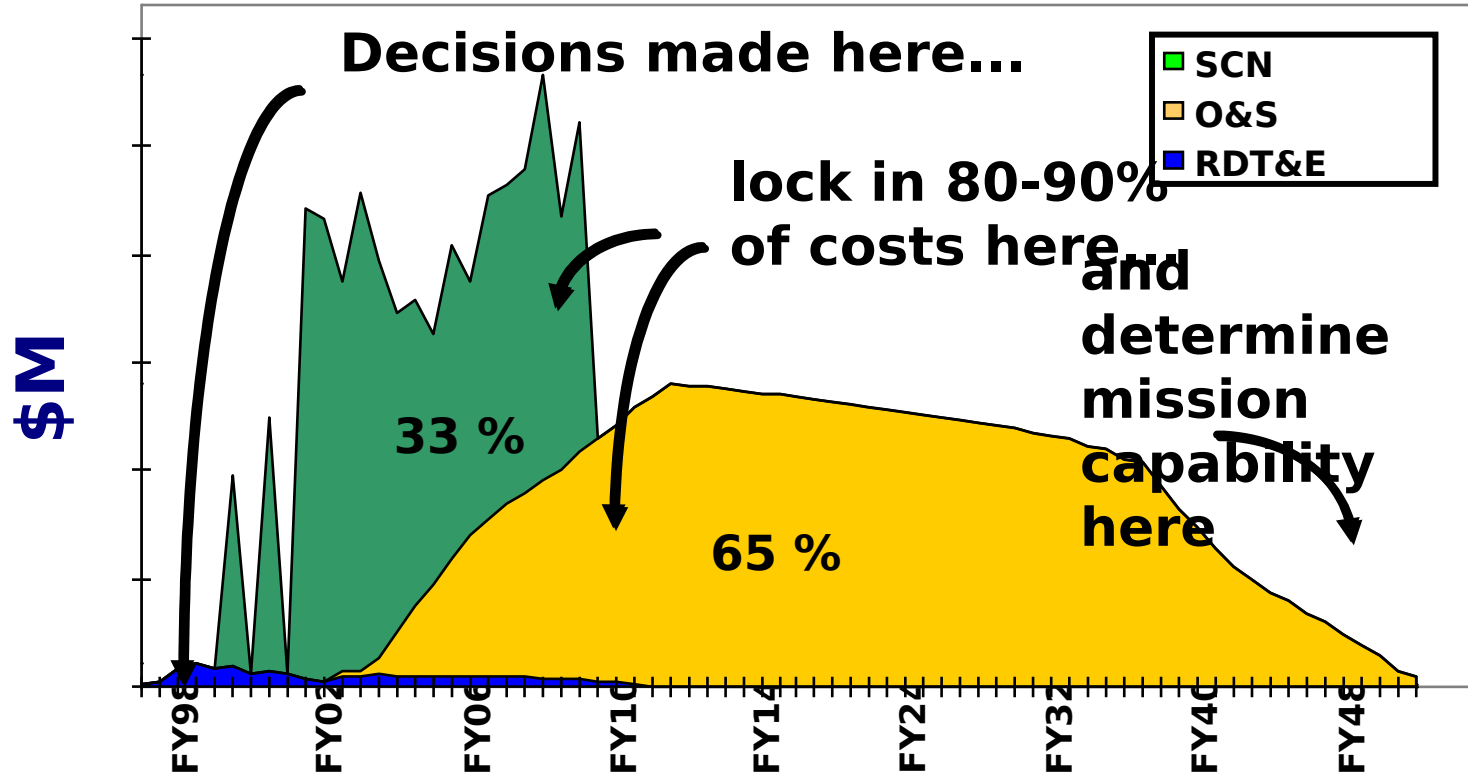
DoD 5000.2-R, Chapter 5, Para C5.2.3.5.9.

“For all programs **regardless of ACAT**, the PM **shall** initiate a comprehensive strategy for HSI early in the acquisition process [to minimize cost and maximize performance].”



Each Service has additional requirements per their execution policy.

Why Do HSI?



***Early decisions drive TOC -
Design decisions drive HSI costs
(40-60%)***

“New” DoD 5000 (series)

- Not so “new” - signed out 1

January 01

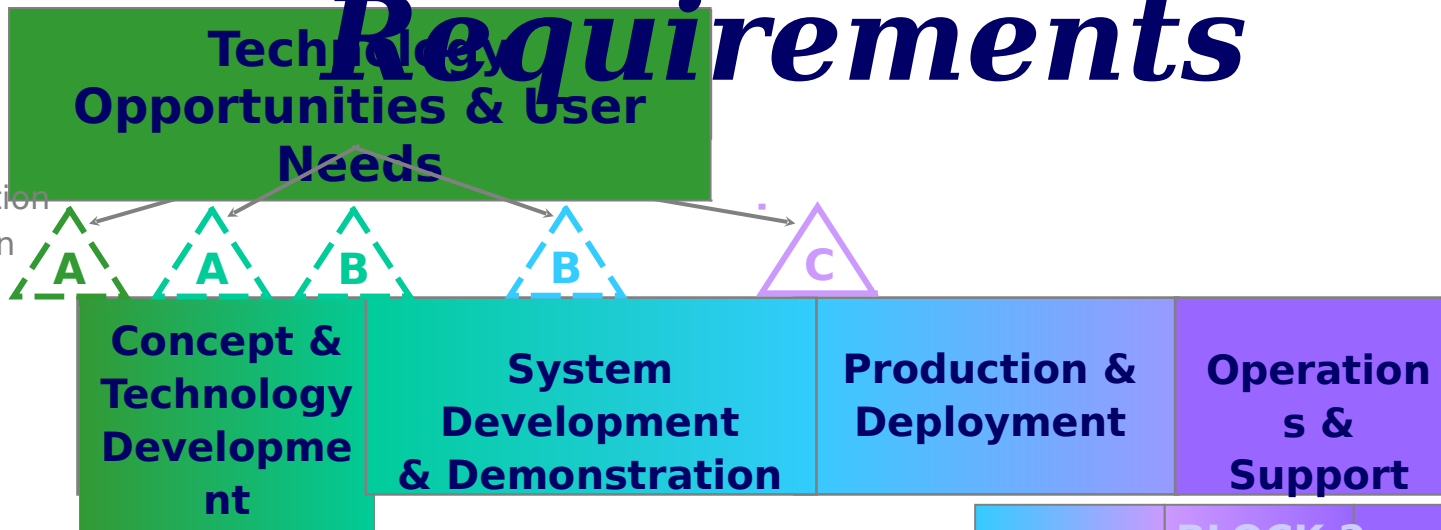
- Focuses on:
 - Interoperability
 - Rapid transition from S&T to product
 - Rapid transition from acquisition to deployment
 - Integrated and effective operational support
 - Effective management

New Acquisition Process

HSI DoD Milestone

Requirements

Determination
of Mission
Need



HSI Milestone Requirements

MNS

Paragraph 5 should discuss the manpower, personnel and training constraints that may impact satisfying the need. *CJCSI 3170.01B*

ORD

Section 5(e) should address the HSI domains and quantify threshold/objective requirements for each. *CJCSI 3170.01B*

Acq / Support Strategy

Describe technical and management approach (including responsibilities) to meet HSI requirements/initiatives. *DoD*

TEMP

Translate HSI ORD thresholds and objectives into quantitative and measurable system requirements. *DoD 5000.2-R*

TSP

Define and document manpower, personnel and training requirements. *OPNAVINST 1500.76*

ME(R)

Required for ACAT I programs, recommended for all other programs. Report total manpower requirements. *OPNAVINST 1500.76*

DoD HSI Requirements

Chapter 2, Para C2.8.5 and Para C2.8.6

- Optimize total system performance
- Minimize Total Ownership Cost (TOC)
- INTEGRATE domains
- Include HSI in Support Strategy
 - Identify responsibilities
 - Describe technical and management approach for HSI requirements
 - Summarize major elements of the associated tra

DoD HSI Requirements

Chapter 4, Para C4.5.4.2

- Manpower Estimate required for all ACAT I projects
- Outlines DoD Component's official manpower
- Addresses manpower affordability / Identifies
- Based on level of system performance expected
- Reports total number of military, DoD civilian, and contract work years
- Compares new with legacy
- Indicates shortfalls (funding and personnel)
- Personnel issues that impact full operational capability

DoD HSI Requirements

Chapter 5, Para

C5.2.3.5.9

• Applies to ALL programs

- Minimize cost
- Ensure system is built to accommodate the human performance characteristics of the user population
- Work with domain communities to translate HSI thresholds and objectives into system requirements
 - Quantifiable and Measurable
 - Included in:
 - Specifications
 - TEMP
 - Other program documentation (AoA, AS, APB, CAP)

HSI “Hammers”

- OUSD(Personnel & Readiness) member
- MERs are required - by law and Congress
- TSPs are required - by OSD and Op Forc
- Assistant Secretaries are scrutinizing co
- Navy - QDR capped manpower

For More Information...

Each Service has additional requirements per their execution policy.

www.manprint.army.mil

<https://hswya.brooks.af.mil>

www.manningaffordability.com

www.rde.uscg.gov

Points of Contact

OUSD(P&R)	703-614-
5259	

Army (DAPE-MR)	703-
325-8712	

Air Force (311th/HSW)	210-
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